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APPENDIX TO AMENDMENT OF AUGUST 31, 2001

Version with Markings to Show Changes Made

Amendments to the Specification

Page 38, replace the paragraph beginning on line 16, with the following new paragraph:

Point-type sensors, such as a photodiode (PD) and a [photomal] photomultiplier (PMT), may be employed. When sensors of this type are used, the inspection optical system may be the same as that used when the TDI sensor is used. The point-type sensors are non-accumulation type sensors, and when they are used, signals representing constantly-changing interference patterns are averaged to obtain a pattern image free of interference noise.

Page 38, replacing the paragraph beginning on line 24 and continuing to page 39 beginning on line 1, with the following paragraph:

As described above, the sensors applicable to the inspection apparatus of the present invention are not limited to TDI sensors; they may be a camera-type sensor, a CCD line sensor, a photodiode, a [photomal] photomultiplier, etc.

Amendments to the Claims

1. (Amended) A method for preparing a sample comprising:

generating a laser beam;

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changing a phase of the laser beam to smooth the brightness distribution of the laser beam, and applying the laser beam to the sample;

acquiring an image of the sample with a [Time Delay Integration (TDI)] sensor, and outputting an image signal from the [TDI] sensor in accordance with relative movement of the laser beam and the sample;

detecting a defect of the [mask] pattern of the sample on the basis of the image signal output from the [TDI] sensor;

specifying the position of the defect of the [mask] pattern on the basis of the result obtained by the detecting step; and

repairing the defect of the [mask] pattern.

2. (Amended) A method for repairing a sample according to claim 1, wherein a signal integration time of the [TDI] sensor is enough for smoothing the brightness distribution of the laser beam in the step of changing.

3. (Amended) A method for repairing a sample according to claim 1, wherein a laser beam source used in the generating step is a source which can continuously or intermittently emit a laser beam.

5. (Amended) A method for repairing a sample according to claim 4, wherein the period when the optical axis of the laser beam is changed against the sample is decided in accordance with the signal integration time of a [Time Delay Integration (TDI)] sensor.

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7. (Amended) A method for repairing a sample according to claim 6, wherein the rotation velocity of the phase shift plate is enough for signal integration of the [TDI] sensor.

9. (Amended) A method for repairing a sample according to claim 8, wherein the total rotation rate of the phase shift plates is enough for smoothing the brightness for the signal integration of the [TDI] sensor.

15. (Amended) A method for repairing a sample according to claim 1, further including the step of outputting the image signal output from the [TDI] sensor after correcting the image signal by use of a correction coefficient associated with a line width of the [mask] pattern of the sample.

16. (Amended) A method for repairing a sample according to claim 1, wherein in the detecting step, the image signal output from the [TDI] sensor is compared with reference data which is read out, to thereby detect whether or not the [mask] pattern has a defect.

17. (Amended) A method for repairing a sample according to claim 16, further including the step of detecting a relative speed of the sample to the [TDI] sensor, and correcting timing at which the reference data is read out, in accordance with the relative speed.

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18. (Amended) A method for inspecting a sample, comprising:

generating a laser beam;

changing a phase of the laser beam to smooth the brightness distribution of the laser beam;

applying the smoothed laser beam to the sample;

acquiring an image of the sample using a [Time Delay Integration (TDI)] sensor while the laser beam and the sample are relatively moved; and

examining the image of the sample for a defect of the [mask] pattern of the sample.

19. (Amended) A method for inspecting a sample according to claim 18, wherein a signal integration time of the [TDI] sensor is enough for smoothing the brightness distribution of the laser beam in the step of changing.

20. (Amended) A method for inspecting a sample according to claim 18, wherein the laser beam used in the generating step is a source which can continuously or intermittently emit a laser beam.

22. (Amended) A method for inspecting a sample according to claim 21, wherein the period when the optical axis of the laser beam is changed against the sample is decided in accordance with the signal integration time of the [TDI] sensor.

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24. (Amended) A method for inspecting a sample according to claim 23, wherein the rotation velocity of the phase shift plate is enough for the signal integration of the [TDI] sensor.

26. (Amended) A method for inspecting a sample according to claim 25, wherein the total rotation rate of the phase shift plates is enough for smoothing the brightness for the signal integration of the [TDI] sensor.

32. (Amended) A method for inspecting a sample according to claim 18, further including the step of outputting the image signal output from the [TDI] sensor after correcting the image signal by use of a correction coefficient associated with a line width of the [mask] pattern of the sample.

33. (Amended) A method for inspecting a sample according to claim 18, wherein in the examining step, a signal output from the [TDI] sensor is compared with reference data which is read, to thereby detect whether or not the [mask] pattern has a defect.

34. (Amended) A method for inspecting a sample according to claim 33, further including the step of detecting a relative speed of the sample to the [TDI] sensor, and correcting timing at which the reference data is read, in accordance with the relative speed.

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35. (Amended) A method for manufacturing a photomask comprising:

forming a pattern onto the photomask;

generating a laser beam;

changing a phase of the laser beam to smooth the brightness distribution of the laser beam, and applying the smoothed laser beam to the photomask;

acquiring an image of the photomask with a [TDI] sensor as the laser beam and the photomask are moved relatively;

acquiring a defect of the mask pattern of the photomask on the basis of the image of the photomask; and

when the defect of the mask pattern is detected, specifying the position of the defect of the mask pattern, and repairing the defect of the mask pattern.

36. (Amended) A method for manufacturing a photomask according to claim 35, wherein a signal integration time of the [TDI] sensor is enough for smoothing the brightness distribution of the laser beam in the step of changing.

37. (Amended) A method for manufacturing a photomask according to claim 35, wherein a laser beam source used in the generating step is a source which can continuously or intermittently emit a laser beam.

39. (Amended) A method for manufacturing a photomask according to claim 38, wherein the period when the optical axis of the laser beam is changed against the

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photomask is decided in accordance with the signal integration time of a [Time Delay Integration (TDI)] sensor.

41. (Amended) A method for manufacturing a photomask according to claim 40, wherein the rotation velocity of the phase shift plate is enough for signal integration of the [TDI] sensor.

43. (Amended) A method for manufacturing a photomask according to claim 42, wherein the total rotation rate of the phase shift plates is enough for smoothing the brightness for the signal integration of the [TDI] sensor.

49. (Amended) A method for manufacturing a photomask according to claim 35, further including the step of outputting the image signal output from the [TDI] sensor after correcting the image signal by use of a correction coefficient associated with a line width of the mask pattern of the photomask.

50. (Amended) A method for manufacturing a photomask according to claim 35, wherein in the detecting step, the image signal output from the [TDI] sensor is compared with reference data which is read out, to thereby detect whether or not the mask pattern has a defect.

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51. (Amended) A method for manufacturing a photomask according to claim 50, further including the step of detecting a relative speed of the photomask to the [TDI]

sensor, and correcting timing at which the reference data is read out, in accordance with the relative speed.

52. (Amended) A method for manufacturing a semiconductor device by using a photomask after inspecting the photomask, comprising:

generating a laser beam;

changing a phase of the laser beam to smooth the brightness distribution of the laser beam;

applying the smoothed laser beam to the photomask;

acquiring an image of the photomask using a [Time Delay Integration (TDI)] sensor while the laser beam and the photomask are relatively moved; and

examining the image of the photomask for a defect of the mask pattern of the photomask.

53. (Amended) A method for manufacturing a semiconductor device by using a photomask after manufacturing the photomask, comprising;

forming a pattern onto the photomask;

generating a laser beam;

changing a phase of the laser beam to smooth the brightness distribution of the laser beam, and applying the smoothed laser beam to the photomask;

acquiring an image of the photomask with a [TDI] sensor as the laser beam and the photomask are relatively moved;

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acquiring a defect of the mask pattern of the photomask on the basis of the image of the photomask; and

when the defect of the mask pattern is detected, specifying the position of the defect of the mask pattern, and repairing the defect of the mask pattern.

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